

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A computer implemented method of automatically generating Electronic Data Interchange (EDI) documents or messages using an EDI system, comprising:

extracting segments, transaction sets, functional groups, and attributes from EDI document, as extracted data; and

storing the extracted data in a memory in a hierarchical manner according to whether the extracted data is segment data, transaction set data, functional group data, or attribute data,

extracting at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory; and

extracting at least one transaction set from the EDI document that is a part of the at least one functional group, based on a linkage in the memory of the at least one transaction set to the at least one functional group,

wherein each of the extracted data stored in the memory is assigned an attribute that is also stored in the memory and that is linked to each of the extracted data, and

wherein the at least one functional group and the at least one transaction set extracted from the EDI document are stored in the memory with a common attribute.

2. (Original) The method according to claim 1, further comprising:  
extracting at least one segment from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

3. (Original) The method according to claim 1, further comprising:

extracting at least one transaction set from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

4. (Original) The method according to claim 1, further comprising:

extracting at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

5. (Canceled).

6. (Currently Amended) A system for automatically generating data in a self-describing markup language format from received EDI data, comprising:

a data extractor that is configured to extract segments, transaction sets, functional groups, and attributes from an EDI document, as extracted data; and

a memory that is configured to store the extracted data in a hierarchical manner, the extracted data being stored in the memory according to whether the extracted data is segment data, transaction set data, functional group data, or attribute data,

wherein the data extractor is configured to extract at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory; and

wherein the data extractor is configured to extract at least one transaction set from the EDI document that is a part of the at least one functional group, based on a linkage in the memory of the at least one transaction set to the at least one functional group,

wherein each of the extracted data stored in the memory is assigned an attribute that is also stored in the memory and that is linked to each of the extracted data, and

wherein the at least one functional group and the at least one transaction set extracted from the EDI document are stored in the memory with a common attribute.

7. (Original) The system according to claim 6, further comprising:

a second data extractor that extracts at least one segment from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

8. (Original) The system according to claim 6, further comprising:

a second data extractor that extracts at least one transaction set from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

9. (Original) The system according to claim 6, further comprising:

a second data extractor that extracts at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

10. (Canceled).

11. (Currently Amended) A computer readable data storage medium for an EDI system having program code recorded thereon that is executable by a computer to perform the following steps :

extracting segments, transaction sets, functional groups, and attributes from an EDI document, as extracted data; ~~and~~

storing the extracted data in a memory in a hierarchical manner according to whether the extracted data is segment data, transaction set data, functional group data, or attribute data,

extracting at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory; and

extracting at least one transaction set from the EDI document that is a part of the at least one functional group, based on a linkage in the memory of the at least one transaction set to the at least one functional group,

wherein each of the extracted data stored in the memory is assigned an attribute that is also stored in the memory and that is linked to each of the extracted data, and

wherein the at least one functional group and the at least one transaction set extracted from the EDI document are stored in the memory with a common attribute.

12. (Original) The computer readable data storage medium having program code recorded thereon according to claim 11, further comprising:

extracting at least one segment from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

13. (Original) The computer readable data storage medium having program code recorded thereon according to claim 11, further comprising:

extracting at least one transaction set from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

14. (Original) The computer readable data storage medium having program code recorded thereon according to claim 11, further comprising:

extracting at least one functional group from the EDI document from the memory based on a hierarchical relationship between the segment and other data of the EDI document stored in the memory.

15. (Canceled).

16. (New) The method according to claim 1, further comprising:

providing a graphical user interface to enable a user to select at least one attribute to be retrieved from the memory in order to create an EDI document, and to enable the user to select a particular document shell for which the data retrieved from the memory is to be inputted;

extracting data from the memory based on the at least one attribute selected by the user;  
and

providing the extracted data into the particular document shell selected by the user, to provide the EDI document for the user on the graphical user interface to allow for further editing and updating of the EDI document by the user.

17. (New) The method according to claim 1, wherein the storing step comprises:  
storing the EDI document in the memory as a document object having one or more attributes;  
storing any segments extracted from the EDI document as document segments in the memory each having one or more attributes;  
storing any transaction sets extracted from the EDI document as transaction set segments in the memory each having one or more attributes; and  
storing any functional groups extracted from the EDI document as functional group segments in the memory each having one or more attributes.

18. (New) The system according to claim 6, further comprising:  
a graphical user interface configured to enable a user to select at least one attribute to be retrieved from the memory in order to create an EDI document, and to enable the user to select a particular document shell for which the data retrieved from the memory is to be inputted,  
wherein the data extractor extracts data from the memory based on the at least one attribute selected by the user, and  
wherein the data extractor provides the extracted data into the particular document shell selected by the user, to provide the EDI document for the user on the graphical user interface to allow for further editing and updating of the EDI document by the user.

19. (New) The system according to claim 6, wherein the memory comprises:  
a first hierarchical storing block for storing the EDI document as a document object having one or more attributes;  
a second hierarchical storing block for storing any segments extracted from the EDI document as document segments each having one or more attributes;

a third hierarchical storing block for storing any transaction sets extracted from the EDI document as transaction set segments each having one or more attributes; and

a fourth hierarchical storing block for storing any functional groups extracted from the EDI document as functional group segments each having one or more attributes.

20. (New) The computer readable data storage medium having program code recorded thereon according to claim 11, further comprising:

providing a graphical user interface to enable a user to select at least one attribute to be retrieved from the memory in order to create an EDI document, and to enable the user to select a particular document shell for which the data retrieved from the memory is to be inputted;

extracting data from the memory based on the at least one attribute selected by the user; and

providing the extracted data into the particular document shell selected by the user, to provide the EDI document for the user on the graphical user interface to allow for further editing and updating of the EDI document by the user.

21. (New) The computer readable data storage medium having program code recorded thereon according to claim 11, wherein the storing comprises:

storing the EDI document in the memory as a document object having one or more attributes;

storing any segments extracted from the EDI document as document segments in the memory each having one or more attributes;

storing any transaction sets extracted from the EDI document as transaction set segments in the memory each having one or more attributes; and

storing any functional groups extracted from the EDI document as functional group segments in the memory each having one or more attributes.